

00 09/911, 0888  
DOW 29/04/03  
gch

Welcome to STN International! Enter x:x

LOGINID:sssptal600gxx

PASSWORD:

THIS LOGINID IS CURRENTLY IN USE.

DO YOU WISH TO RESUME THE PREVIOUS SESSION? Y/(N)/?:Y

THE PREVIOUS SESSION IS BEING DISCONNECTED.

PLEASE LOG IN AGAIN TO BE RECONNECTED.

SYSTEM LOGOFF AT 16:53:35 ON 29 APR 2003 US EASTERN TIME

Connection closed by remote host

A new logon attempt will be made when this window closes. If you chose to RESUME PREVIOUS SESSION, then continue with the logon process as normal. If not, choose Cancel or <ESC> to interrupt the logon process.

Commerical Database access on COM server not responding.

STNLOGON timed out

Welcome to STN International! Enter x:x

LOGINID:sssptal600gxx

PASSWORD:

\* \* \* \* \* RECONNECTED TO STN INTERNATIONAL \* \* \* \* \*

SESSION RESUMED IN FILE 'CAPLUS, CABA, AGRICOLA, BIOSIS'

AT 16:56:26 ON 29 APR 2003

FILE 'CAPLUS' ENTERED AT 16:56:26 ON 29 APR 2003

COPYRIGHT (C) 2003 AMERICAN CHEMICAL SOCIETY (ACS)

FILE 'CABA' ENTERED AT 16:56:26 ON 29 APR 2003

COPYRIGHT (C) 2003 CAB INTERNATIONAL (CABI)

FILE 'AGRICOLA' ENTERED AT 16:56:26 ON 29 APR 2003

FILE 'BIOSIS' ENTERED AT 16:56:26 ON 29 APR 2003

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COST IN U.S. DOLLARS

| SINCE FILE | TOTAL   |
|------------|---------|
| ENTRY      | SESSION |
| 78.12      | 81.13   |

FULL ESTIMATED COST

=> d his

(FILE 'HOME' ENTERED AT 16:26:41 ON 29 APR 2003)

FILE 'MEDLINE, BIOSIS, CAPLUS, EMBASE' ENTERED AT 16:26:54 ON 29 APR 2003

FILE 'CAPLUS, CABA, AGRICOLA, BIOSIS' ENTERED AT 16:27:17 ON 29 APR 2003

L1

10 S IRREVERSIBLE RECOMB?

L2 22 S C31 INTEGRASE

=> d 1-22

L2 ANSWER 1 OF 22 CAPLUS COPYRIGHT 2003 ACS  
AN 2003:152012 CAPLUS  
TI Site-specific cassette exchange and germline transmission with mouse ES cells expressing .PHI.C31 integrase  
AU Belteki, Gusztav; Gertsenstein, Marina; Ow, David W.; Nagy, Andras  
CS Samuel Lunenfeld Research Institute, Mount Sinai Hospital, Toronto, ON, M5G 1X5, Can.  
SO Nature Biotechnology (2003), 21(3), 321-324  
CODEN: NABIF9; ISSN: 1087-0156  
PB Nature Publishing Group  
DT Journal  
LA English  
RE.CNT 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 2 OF 22 CAPLUS COPYRIGHT 2003 ACS  
AN 2002:814310 CAPLUS  
DN 137:321289  
TI Expression systems to produce DNA minicircle lacking bacterial vector sequences from parent plasmid for gene therapy  
IN Bigger, Brian W.; Tolmachov, Oleg; Coutelle, Charles  
PA Imperial College Innovations Limited, UK  
SO PCT Int. Appl., 70 pp.  
CODEN: PIXXD2  
DT Patent  
LA English  
FAN.CNT 1

|      | PATENT NO.  | KIND | DATE     | APPLICATION NO. | DATE     |
|------|---|------|----------|-----------------|----------|
| PI   | WO 2002083889   | A2   | 20021024 | WO 2002-GB1668  | 20020410 |
|      | W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM |      |          |                 |          |
|      | RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG  |      |          |                 |          |
|      | US 2003005478   | A1   | 20030102 | US 2002-118231  | 20020409 |
| PRAI | GB 2001-8968  | A    | 20010410 |                 |          |
|      | US 2001-327029P   | P    | 20011005 |                 |          |

L2 ANSWER 3 OF 22 CAPLUS COPYRIGHT 2003 ACS  
AN 2002:754598 CAPLUS  
DN 137:274083  
TI Autonomously-replicating amplifiable vectors for transformation of plant cells and site-specific integration of transgenes  
IN Klimyuk, Victor; Gleba, Yuri; Marillonnet, Sylvestre  
PA Icon Genetics Ag, Germany; Icon Genetics, Inc.  
SO PCT Int. Appl., 74 pp.  
CODEN: PIXXD2  
DT Patent  
LA English  
FAN.CNT 1

|    | PATENT NO.   | KIND | DATE     | APPLICATION NO. | DATE     |
|----|--|------|----------|-----------------|----------|
| PI | WO 2002077246  | A2   | 20021003 | WO 2002-EP3266  | 20020322 |
|    | W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, |      |          |                 |          |

CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,  
GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,  
LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH,  
PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ,  
UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU,  
TJ, TM

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH,  
CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR,  
BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

DE 10114209 A1 20021205 DE 2001-10114209 20010323

PRAI DE 2001-10114209 A 20010323

L2 ANSWER 4 OF 22 CAPLUS COPYRIGHT 2003 ACS

AN 2002:745860 CAPLUS

DN 138:85859

TI Stable nonviral genetic correction of inherited human skin disease

AU Ortiz-Urda, Susana; Thyagarajan, Bhaskar; Keene, Douglas R.; Lin, Qun;  
Fang, Min; Calos, Michele P.; Khavari, Paul A.

CS Stanford University School of Medicine, Stanford, CA, USA

SO Nature Medicine (New York, NY, United States) (2002), 8(10), 1166-1170  
CODEN: NAMEFI; ISSN: 1078-8956

PB Nature Publishing Group

DT Journal

LA English

RE.CNT 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 5 OF 22 CAPLUS COPYRIGHT 2003 ACS

AN 2002:489195 CAPLUS

DN 137:258122

TI Enhanced efficiency through nuclear localization signal fusion on phage  
.PHI.C31-integrase: activity comparison with Cre and  
FLPe recombinase in mammalian cells

AU Andreas, Susanne; Schwenk, Frieder; Kuter-Luks, Birgit; Faust, Nicole;  
Kuhn, Ralf

CS Artemis Pharmaceuticals GmbH, Koln, 51063, Germany

SO Nucleic Acids Research (2002), 30(11), 2299-2306  
CODEN: NARHAD; ISSN: 0305-1048

PB Oxford University Press

DT Journal

LA English

RE.CNT 36 THERE ARE 36 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 6 OF 22 CAPLUS COPYRIGHT 2003 ACS

AN 2002:368516 CAPLUS

DN 136:381344

TI Recombinase-nuclear localization signal fusion and its use for DNA  
recombination in cells or organisms

IN Kuehn, Ralf; Felder, Susanne; Schwenk, Frieder; Kueter-Luks, Birgit;  
Faust, Nicole

PA Artemis Pharmaceuticals G.m.b.H., Germany

SO PCT Int. Appl., 150 pp.  
CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 2

|    | PATENT NO.    | KIND | DATE     | APPLICATION NO. | DATE     |
|----|---------------|------|----------|-----------------|----------|
| PI | WO 2002038613 | A2   | 20020516 | WO 2001-EP12975 | 20011109 |

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,  
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,  
GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,  
LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL,

PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG,  
 UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM  
 RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,  
 DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF,  
 BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG  
 EP 1205490 A1 20020515 EP 2000-124629 20001110  
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,  
 IE, SI, LT, LV, FI, RO, MK, CY, AL, TR  
 AU 2002021829 A5 20020521 AU 2002-21829 20011109  
 PRAI EP 2000-124629 A 20001110  
 EP 2001-109543 A 20010417  
 US 2001-311876P P 20010813  
 WO 2001-EP12975 W 20011109

L2 ANSWER 7 OF 22 CAPLUS COPYRIGHT 2003 ACS

AN 2002:364022 CAPLUS

DN 136:381377

TI Integrase carrying signal peptide for site-specific recombination

IN Kuehn, Ralf; Felder, Susanne; Schwenk, Frieder; Kueter-Luks, Birgit;  
 Faust, Nicole

PA Artemis Pharmaceuticals G.m.b.H., Germany

SO Eur. Pat. Appl., 54 pp.

CODEN: EPXXDW

DT Patent

LA English

FAN.CNT 2

|      | PATENT NO.   | KIND | DATE     | APPLICATION NO. | DATE     |
|------|--|------|----------|-----------------|----------|
| PI   | EP 1205490   | A1   | 20020515 | EP 2000-124629  | 20001110 |
|      | R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,<br>IE, SI, LT, LV, FI, RO, MK, CY, AL, TR   |      |          |                 |          |
|      | WO 2002038613  | A2   | 20020516 | WO 2001-EP12975 | 20011109 |
|      | W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,<br>CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,<br>GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,<br>LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL,<br>PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG,<br>UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM |      |          |                 |          |
|      | RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,<br>DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF,<br>BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG   |      |          |                 |          |
|      | AU 2002021829  | A5   | 20020521 | AU 2002-21829   | 20011109 |
| PRAI | EP 2000-124629   | A    | 20001110 |                 |          |
|      | EP 2001-109543   | A    | 20010417 |                 |          |
|      | US 2001-311876P  | P    | 20010813 |                 |          |
|      | WO 2001-EP12975  | W    | 20011109 |                 |          |

RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD

ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 8 OF 22 CAPLUS COPYRIGHT 2003 ACS

AN 2002:355879 CAPLUS

DN 137:105514

TI Diversity in the serine recombinases

AU Smith, Margaret C. M.; Thorpe, Helena M.

CS Institute of Genetics, Queens Medical Centre, University of Nottingham,  
 Nottingham, NG7 2UH, UK

SO Molecular Microbiology (2002), 44(2), 299-307

CODEN: MOMIEE; ISSN: 0950-382X

PB Blackwell Science Ltd.

DT Journal; General Review

LA English

RE.CNT 61 THERE ARE 61 CITED REFERENCES AVAILABLE FOR THIS RECORD

ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 9 OF 22 CAPLUS COPYRIGHT 2003 ACS  
 AN 2002:67139 CAPLUS  
 DN 137:2397  
 TI Directed evolution of a recombinase for improved genomic integration at a native human sequence  
 AU Scilimenti, Christopher R.; Thyagarajan, Bhaskar; Calos, Michele P.  
 CS Department of Genetics, Stanford University School of Medicine, Stanford, CA, 94305-5120, USA  
 SO Nucleic Acids Research (2001), 29(24), 5044-5051  
 CODEN: NARHAD; ISSN: 0305-1048  
 PB Oxford University Press  
 DT Journal  
 LA English  
 RE.CNT 29 THERE ARE 29 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 10 OF 22 CAPLUS COPYRIGHT 2003 ACS  
 AN 2001:826441 CAPLUS  
 DN 136:364415  
 TI Phage R4 integrase mediates site-specific integration in human cells  
 AU Olivares, Eric C.; Hollis, Roger P.; Calos, Michele P.  
 CS Department of Genetics, Stanford University School of Medicine, Stanford, CA, 94305-5120, USA  
 SO Gene (2001), 278(1-2), 167-176  
 CODEN: GENED6; ISSN: 0378-1119  
 PB Elsevier Science B.V.  
 DT Journal  
 LA English  
 RE.CNT 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 11 OF 22 CAPLUS COPYRIGHT 2003 ACS  
 AN 2001:630281 CAPLUS  
 DN 136:227747  
 TI Gene insertion and replacement in Schizosaccharomyces pombe mediated by the Streptomyces bacteriophage .phi.C31 site-specific recombination system  
 AU Thomason, L. C.; Calendar, R.; Ow, D. W.  
 CS Department of Molecular and Cell Biology, University of California, Berkeley, CA, 94720-3202, USA  
 SO Molecular Genetics and Genomics (2001), 265(6), 1031-1038  
 CODEN: MGGOAA; ISSN: 1617-4615  
 PB Springer-Verlag  
 DT Journal  
 LA English  
 RE.CNT 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 12 OF 22 CAPLUS COPYRIGHT 2003 ACS  
 AN 2001:618208 CAPLUS  
 DN 135:191258  
 TI Methods for preparing altered recombinases for genome modification  
 IN Calos, Michele P.; Scilimenti, Christopher R.  
 PA The Board of Trustees of the Leland Stanford Junior University, USA  
 SO PCT Int. Appl., 100 pp.  
 CODEN: PIXXD2  
 DT Patent  
 LA English

FAN.CNT 1

|    | PATENT NO.    | KIND  | DATE     | APPLICATION NO. | DATE     |
|----|---------------|---|----------|-----------------|----------|
| PI | WO 2001061049 | A1  | 20010823 | WO 2001-US5269  | 20010216 |
|    | W:            | AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, |          |                 |          |

LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU,  
 SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN,  
 YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM  
 RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,  
 DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF,  
 BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG  
 US 2002094516 A1 20020718 US 2001-788297 20010216  
 EP 1255868 A1 20021113 EP 2001-914401 20010216  
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,  
 IE, SI, LT, LV, FI, RO, MK, CY, AL, TR  
 PRAI US 2000-183759P P 20000218  
 WO 2001-US5269 W 20010216  
 RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 13 OF 22 CAPLUS COPYRIGHT 2003 ACS  
 AN 2001:411353 CAPLUS  
 DN 136:96878  
 TI Site-specific genomic integration in mammalian cells mediated by phage  
 .phi.**C31 integrase**  
 AU Thyagarajan, Bhaskar; Olivares, Eric C.; Hollis, Roger P.; Ginsburg,  
 Daniel S.; Calos, Michele P.  
 CS Department of Genetics, Stanford University School of Medicine, Stanford,  
 CA, 94305-5120, USA  
 SO Molecular and Cellular Biology (2001), 21(12), 3926-3934  
 CODEN: MCEBD4; ISSN: 0270-7306  
 PB American Society for Microbiology  
 DT Journal  
 LA English  
 RE.CNT 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 14 OF 22 CAPLUS COPYRIGHT 2003 ACS  
 AN 2001:78496 CAPLUS  
 DN 134:126852  
 TI DNA recombination in eukaryotic cells by the bacteriophage phiC31  
 recombination system  
 IN Ow, David W.; Calendar, Richard; Thomason, Lynn  
 PA The Regents of the University of California, USA; United States Dept. of  
 Agriculture  
 SO PCT Int. Appl., 52 pp.  
 CODEN: PIXXD2  
 DT Patent  
 LA English  
 FAN.CNT 1

|      | PATENT NO.  | KIND | DATE     | APPLICATION NO. | DATE     |
|------|---|------|----------|-----------------|----------|
|      | -----   | ---  | -----    | -----           | -----    |
| PI   | WO 2001007572   | A2   | 20010201 | WO 2000-US19983 | 20000721 |
|      | W:  |      |          |                 |          |
|      | AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,     |      |          |                 |          |
|      | CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR,     |      |          |                 |          |
|      | HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT,     |      |          |                 |          |
|      | LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU,     |      |          |                 |          |
|      | SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU,     |      |          |                 |          |
|      | ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM                          |      |          |                 |          |
|      | RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, |      |          |                 |          |
|      | DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ,     |      |          |                 |          |
|      | CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG                  |      |          |                 |          |
|      | EP 1234022  | A2   | 20020828 | EP 2000-950558  | 20000721 |
|      | R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,  |      |          |                 |          |
|      | IE, SI, LT, LV, FI, RO, MK, CY, AL                                  |      |          |                 |          |
|      | JP 2003505065   | T2   | 20030212 | JP 2001-512843  | 20000721 |
| PRAI | US 1999-145469P   | P    | 19990723 |                 |          |
|      | WO 2000-US19983   | W    | 20000721 |                 |          |

L2 ANSWER 15 OF 22 CAPLUS COPYRIGHT 2003 ACS  
 AN 2000:805953 CAPLUS  
 DN 134:97109  
 TI Control of directionality in the site-specific recombination system of the  
 Streptomyces phage .phi.C31  
 AU Thorpe, Helena M.; Wilson, Stuart E.; Smith, Margaret C. M.  
 CS Institute of Genetics, Queens Medical Centre, University of Nottingham,  
 Nottingham, NG7 2UH, UK  
 SO Molecular Microbiology (2000), 38(2), 232-241  
 CODEN: MOMIEE; ISSN: 0950-382X  
 PB Blackwell Science Ltd.  
 DT Journal  
 LA English  
 RE.CNT 41 THERE ARE 41 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 16 OF 22 CAPLUS COPYRIGHT 2003 ACS  
 AN 2000:392815 CAPLUS  
 DN 133:306122  
 TI A phage integrase directs efficient site-specific integration in human  
 cells  
 AU Groth, Amy C.; Olivares, Eric C.; Thyagarajan, Bhaskar; Calos, Michele P.  
 CS Department of Genetics, Stanford University School of Medicine, Stanford,  
 CA, 94305-5120, USA  
 SO Proceedings of the National Academy of Sciences of the United States of  
 America (2000), 97(11), 5995-6000  
 CODEN: PNASA6; ISSN: 0027-8424  
 PB National Academy of Sciences  
 DT Journal  
 LA English  
 RE.CNT 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 17 OF 22 CAPLUS COPYRIGHT 2003 ACS  
 AN 2000:145009 CAPLUS  
 DN 132:204039  
 TI Methods and compositions for genomic modification by site-specific  
 integration  
 IN Calos, Michele P.  
 PA The Board of Trustees of the Leland Stanford Junior University, USA  
 SO PCT Int. Appl., 125 pp.  
 CODEN: PIXXD2  
 DT Patent  
 LA English  
 FAN.CNT 1

|      | PATENT NO.  | KIND | DATE     | APPLICATION NO. | DATE     |
|------|---|------|----------|-----------------|----------|
| PI   | WO 2000011155   | A1   | 20000302 | WO 1999-US18987 | 19990819 |
|      | W: AU, CA, JP   |      |          |                 |          |
|      | RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL,<br>PT, SE |      |          |                 |          |
|      | AU 9958985  | A1   | 20000314 | AU 1999-58985   | 19990819 |
|      | US 2003050258   | A1   | 20030313 | US 1999-377885  | 19990819 |
| PRAI | US 1998-97166P  | P    | 19980819 |                 |          |
|      | WO 1999-US18987   | W    | 19990819 |                 |          |

RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 18 OF 22 CAPLUS COPYRIGHT 2003 ACS  
 AN 1998:311758 CAPLUS  
 DN 129:78359  
 TI In vitro site-specific integration of bacteriophage DNA catalyzed by a  
 recombinase of the resolvase/invertase family  
 AU Thorpe, Helena M.; Smith, Margaret C. M.

CS Department of Genetics, Queens Medical Centre, University of Nottingham,  
Nottingham, NG7 2UH, UK  
SO Proceedings of the National Academy of Sciences of the United States of  
America (1998), 95(10), 5505-5510  
CODEN: PNASA6; ISSN: 0027-8424  
PB National Academy of Sciences  
DT Journal  
LA English  
RE.CNT 37 THERE ARE 37 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 19 OF 22 CABA COPYRIGHT 2003 CABI  
AN 2002:66650 CABA  
DN 20023022973  
TI Site-specific genomic integration in mammalian cells mediated by phage phi  
**C31 integrase**  
AU Thyagarajan, B.; Olivares, E. C.; Hollis, R. P.; Ginsburg, D. S.; Calos,  
M. P.  
CS Department of Genetics, Stanford University School of Medicine, Stanford,  
CA 94305-5120, USA.  
SO Molecular and Cellular Biology, (2001) Vol. 21, No. 12, pp. 3926-3934. 28  
ref.  
ISSN: 0270-7306  
DT Journal  
LA English

L2 ANSWER 20 OF 22 CABA COPYRIGHT 2003 CABI  
AN 2001:121102 CABA  
DN 20013116946  
TI Gene insertion and replacement in Schizosaccharomyces pombe mediated by  
the Streptomyces bacteriophage phi C31 site-specific recombination system  
AU Thomason, L. C.; Calendar, R.; Ow, D. W.  
CS Department of Molecular and Cell Biology, University of California,  
Berkeley, CA 94720-3202, USA.  
SO Molecular Genetics and Genomics, (2001) Vol. 265, No. 6, pp. 1031-1038. 26  
ref.  
ISSN: 1617-4615  
DT Journal  
LA English

L2 ANSWER 21 OF 22 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.  
AN 2003:153841 BIOSIS  
DN PREV200300153841  
TI Site-specific cassette exchange and germline transmission with mouse ES  
cells expressing phiC31 integrase.  
AU Belteki, Gusztav; Gertsenstein, Marina; Ow, David W.; Nagy, Andras (1)  
CS (1) Samuel Lunenfeld Research Institute, Mount Sinai Hospital, 600  
University Avenue, Toronto, ON, M5G 1X5, Canada: nagy@mshri.on.ca Canada  
SO Nature Biotechnology, (March 2003, 2003) Vol. 21, No. 3, pp. 321-324.  
print.  
ISSN: 1087-0156.  
DT Article  
LA English

L2 ANSWER 22 OF 22 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.  
AN 2001:515058 BIOSIS  
DN PREV200100515058  
TI Gene insertion and replacement in Schizosaccharomyces pombe mediated by  
the Streptomyces bacteriophagevariant phiC31 site-specific recombination  
system.  
AU Thomason, L. C.; Calendar, R.; Ow, D. W. (1)  
CS (1) Plant Gene Expression Center, Department of Plant and Microbial  
Biology, U.S. Department of Agriculture, University of California, 800  
Buchanan St., Albany, CA, 94710: ow@pgec.ars.usda.gov USA



SO MGG Molecular Genetics and Genomics, (August, 2001) Vol. 265, No. 6, pp.  
1031-1038. print.  
ISSN: 1617-4615.  
DT Article  
LA English  
SL English

=> c hix d his

C IS NOT A RECOGNIZED COMMAND

The previous command name entered was not recognized by the system.

For a list of commands available to you in the current file, enter

"HELP COMMANDS" at an arrow prompt (=>).

=> d his

(FILE 'HOME' ENTERED AT 16:26:41 ON 29 APR 2003)

FILE 'MEDLINE, BIOSIS, CAPLUS, EMBASE' ENTERED AT 16:26:54 ON 29 APR 2003

FILE 'CAPLUS, CABA, AGRICOLA, BIOSIS' ENTERED AT 16:27:17 ON 29 APR 2003

L1 10 S IRREVERSIBLE RECOMB?

L2 22 S C31 INTEGRASE

**WEST**[Generate Collection](#)[Print](#)**Search Results - Record(s) 1 through 9 of 9 returned.**☐ 1. Document ID: US 6551828 B1

L2: Entry 1 of 9

File: USPT

Apr 22, 2003

US-PAT-NO: 6551828

DOCUMENT-IDENTIFIER: US 6551828 B1

TITLE: Compositions and methods for generating expression vectors through site-specific recombination

DATE-ISSUED: April 22, 2003

## INVENTOR-INFORMATION:

| NAME         | CITY    | STATE | ZIP CODE | COUNTRY |
|--------------|---------|-------|----------|---------|
| Clark; Robin | Benicia | CA    |          |         |

US-CL-CURRENT: [435/462](#); [435/455](#), [435/471](#), [435/7.21](#), [435/7.31](#), [435/7.32](#)

| Full | Title | Abstract | Front | Revised | Classification | Date | Reference | Sequence | Attachment | Claim | Emb | Draw Page | Image |
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|------|-------|----------|-------|---------|----------------|------|-----------|----------|------------|-------|-----|-----------|-------|

☐ 2. Document ID: US 6270969 B1

L2: Entry 2 of 9

File: USPT

Aug 7, 2001

US-PAT-NO: 6270969

DOCUMENT-IDENTIFIER: US 6270969 B1

TITLE: Recombinational cloning using engineered recombination sites

DATE-ISSUED: August 7, 2001

## INVENTOR-INFORMATION:

| NAME               | CITY         | STATE | ZIP CODE | COUNTRY |
|--------------------|--------------|-------|----------|---------|
| Hartley; James L.  | Frederick    | MD    |          |         |
| Brasch; Michael A. | Gaithersburg | MD    |          |         |

US-CL-CURRENT: [435/6](#); [435/320.1](#), [435/462](#), [536/23.1](#), [536/24.1](#)

| Full | Title | Abstract | Front | Revised | Classification | Date | Reference | Sequence | Attachment | Claim | Emb | Draw Page | Image |
|------|-------|----------|-------|---------|----------------|------|-----------|----------|------------|-------|-----|-----------|-------|
|------|-------|----------|-------|---------|----------------|------|-----------|----------|------------|-------|-----|-----------|-------|

☐ 3. Document ID: US 6174708 B1

L2: Entry 3 of 9

File: USPT

Jan 16, 2001

US-PAT-NO: 6174708

DOCUMENT-IDENTIFIER: US 6174708 B1

TITLE: Preparation of a multicombinatorial library of antibody gene expression vectors

DATE-ISSUED: January 16, 2001

INVENTOR-INFORMATION:

| NAME                  | CITY                     | STATE | ZIP CODE | COUNTRY |
|-----------------------|--------------------------|-------|----------|---------|
| Sodoyer; Regis        | Saint Foy les Lyon       |       |          | FR      |
| Aujame; Luc           | Fleurieux sur l'Arbresle |       |          | FR      |
| Geoffroy; Frederique  | Bessenay                 |       |          | FR      |
| Bouchardon; Annabelle | Lyons                    |       |          | FR      |

US-CL-CURRENT: 435/91.1; 435/477, 435/488

[Full](#) [Title](#) [Citation](#) [Front](#) [Review](#) [Classification](#) [Date](#) [Reference](#) [Sequence](#) [Attachment](#)

[Full](#) [Title](#) [Citation](#) [Image](#)

☐ 4. Document ID: US 6171861 B1

L2: Entry 4 of 9

File: USPT

Jan 9, 2001

US-PAT-NO: 6171861

DOCUMENT-IDENTIFIER: US 6171861 B1

**\*\* See image for Certificate of Correction \*\***

TITLE: Recombinational cloning using engineered recombination sites

DATE-ISSUED: January 9, 2001

INVENTOR-INFORMATION:

| NAME               | CITY         | STATE | ZIP CODE | COUNTRY |
|--------------------|--------------|-------|----------|---------|
| Hartley; James L.  | Frederick    | MD    |          |         |
| Brasch; Michael A. | Gaithersburg | MD    |          |         |

US-CL-CURRENT: 435/455; 435/320.1, 435/462, 435/465, 530/350, 536/23.1, 536/24.1

[Full](#) [Title](#) [Citation](#) [Front](#) [Review](#) [Classification](#) [Date](#) [Reference](#) [Sequence](#) [Attachment](#)

[Full](#) [Title](#) [Citation](#) [Image](#)

☐ 5. Document ID: US 6143557 A

L2: Entry 5 of 9

File: USPT

Nov 7, 2000

US-PAT-NO: 6143557

DOCUMENT-IDENTIFIER: US 6143557 A

TITLE: Recombination cloning using engineered recombination sites

DATE-ISSUED: November 7, 2000

INVENTOR-INFORMATION:

| NAME               | CITY         | STATE | ZIP CODE | COUNTRY |
|--------------------|--------------|-------|----------|---------|
| Hartley; James L.  | Frederick    | MD    |          |         |
| Brasch; Michael A. | Gaithersburg | MD    |          |         |

US-CL-CURRENT: 435/320.1; 435/325, 536/23.1, 536/24.1

| Full | Title | Location | Front | Revised | Classification | Date | Reference | Sequence | Attachment |
|------|-------|----------|-------|---------|----------------|------|-----------|----------|------------|
|------|-------|----------|-------|---------|----------------|------|-----------|----------|------------|

| Full | Title | Location | Front | Revised | Classification | Date | Reference | Sequence | Attachment |
|------|-------|----------|-------|---------|----------------|------|-----------|----------|------------|
|------|-------|----------|-------|---------|----------------|------|-----------|----------|------------|

☐ 6. Document ID: US 5888732 A

L2: Entry 6 of 9

File: USPT

Mar 30, 1999

US-PAT-NO: 5888732

DOCUMENT-IDENTIFIER: US 5888732 A

**\*\* See image for Certificate of Correction \*\***

TITLE: Recombinational cloning using engineered recombination sites

DATE-ISSUED: March 30, 1999

## INVENTOR-INFORMATION:

| NAME               | CITY         | STATE | ZIP CODE | COUNTRY |
|--------------------|--------------|-------|----------|---------|
| Hartley; James L.  | Frederick    | MD    |          |         |
| Brasch; Michael A. | Gaithersburg | MD    |          |         |

US-CL-CURRENT: 435/6; 435/320.1, 435/91.42, 536/23.1, 536/24.2

| Full | Title | Location | Front | Revised | Classification | Date | Reference | Sequence | Attachment |
|------|-------|----------|-------|---------|----------------|------|-----------|----------|------------|
|------|-------|----------|-------|---------|----------------|------|-----------|----------|------------|

| Full | Title | Location | Front | Revised | Classification | Date | Reference | Sequence | Attachment |
|------|-------|----------|-------|---------|----------------|------|-----------|----------|------------|
|------|-------|----------|-------|---------|----------------|------|-----------|----------|------------|

☐ 7. Document ID: US 5425044 A

L2: Entry 7 of 9

File: USPT

Jun 13, 1995

US-PAT-NO: 5425044

DOCUMENT-IDENTIFIER: US 5425044 A

TITLE: Compact, burst mode, pulsed, high energy, blowdown flow photolytic atomic iodine laser

DATE-ISSUED: June 13, 1995

## INVENTOR-INFORMATION:

| NAME               | CITY        | STATE | ZIP CODE | COUNTRY |
|--------------------|-------------|-------|----------|---------|
| Schlie; LaVerne A. | Albuquerque | NM    |          |         |
| Dimiduk; David P.  | Albuquerque | NM    |          |         |
| Masson; Bruce S.   | Albuquerque | NM    |          |         |

US-CL-CURRENT: 372/55; 372/70

| Full | Title | Location | Front | Revised | Classification | Date | Reference | Sequence | Attachment |
|------|-------|----------|-------|---------|----------------|------|-----------|----------|------------|
|------|-------|----------|-------|---------|----------------|------|-----------|----------|------------|

| Full | Title | Location | Front | Revised | Classification | Date | Reference | Sequence | Attachment |
|------|-------|----------|-------|---------|----------------|------|-----------|----------|------------|
|------|-------|----------|-------|---------|----------------|------|-----------|----------|------------|

☐ 8. Document ID: US 5369660 A

L2: Entry 8 of 9

File: USPT

Nov 29, 1994

US-PAT-NO: 5369660

DOCUMENT-IDENTIFIER: US 5369660 A

TITLE: Repetitively pulsed, closed cycle, photolytic atomic iodine laser

DATE-ISSUED: November 29, 1994

## INVENTOR-INFORMATION:

| NAME               | CITY        | STATE | ZIP CODE | COUNTRY |
|--------------------|-------------|-------|----------|---------|
| Schlie; LaVerne A. | Albuquerque | NM    |          |         |
| Rathge; Robert D.  | Albuquerque | NM    |          |         |

US-CL-CURRENT: 372/55; 372/58, 372/59, 372/61, 372/89[Full](#) [Title](#) [Caption](#) [Front](#) [Review](#) [Classification](#) [Date](#) [Reference](#) [Sequence](#) [Attachment](#)[Full](#) [Draw Data](#) [Image](#)☐ 9. Document ID: US 5301203 A

L2: Entry 9 of 9

File: USPT

Apr 5, 1994

US-PAT-NO: 5301203

DOCUMENT-IDENTIFIER: US 5301203 A

TITLE: Scalable and stable, CW photolytic atomic iodine laser

DATE-ISSUED: April 5, 1994

## INVENTOR-INFORMATION:

| NAME               | CITY        | STATE | ZIP CODE | COUNTRY |
|--------------------|-------------|-------|----------|---------|
| Schlie; LaVerne A. | Albuquerque | NM    |          |         |
| Rathge; Robert D.  | Albuquerque | NM    |          |         |

US-CL-CURRENT: 372/55; 372/109, 372/39, 372/58, 372/59, 372/60, 372/70, 372/92, 372/95[Full](#) [Title](#) [Caption](#) [Front](#) [Review](#) [Classification](#) [Date](#) [Reference](#) [Sequence](#) [Attachment](#)[Full](#) [Draw Data](#) [Image](#)[Generate Collection](#)[Print](#)

| Terms                     | Documents |
|---------------------------|-----------|
| irreversible adj recomb\$ | 9         |

**Display Format:**[CIT](#)[Change Format](#)[Previous Page](#)[Next Page](#)

**WEST****End of Result Set**

L4: Entry 13 of 13

File: USPT

Jul 13, 1993

DOCUMENT-IDENTIFIER: US 5227288 A

TITLE: DNA sequencing vector with reversible insert

Abstract Text (1):

A sequencing vector based on the M13 phage vector is disclosed which is particularly adapted for use in large scale DNA sequencing procedures. The vector includes a vector unique restriction site flanked by recognition sites, attP and attB, for the site specific recombination as catalyzed by a site specific recombination agent, lambda integrase. Using the vector, which incorporates the capability from M13 to replicate single stranded DNA for dideoxynucleotide sequencing, single stranded DNA of either strand may be selectively created since the orientation of any insert into the restriction site can readily be reversed by exposure of the vector to the recombination agent. This capability is particularly useful in large scale semi-random DNA sequencing in which the ability to selectively produce opposite strands is useful in filling gaps or ambiguities in large sequences.

Detailed Description Text (6):

The recombination recognition sites used in the subject vector are preferably the attachment sites for a protein known as lambda integrase. Lambda integrase is an enzyme encoded by the bacteriophage lambda that directs insertion of the native phage DNA into the chromosome of a bacteria infected by the bacteriophage, such as E.coli, by site specific recombination. The enzyme recognizes specific sites on both the phage, and on the bacterial chromosome, so that a site specific recombination, or integration, of the phage DNA into the E.coli chromosome is directed by the protein. The attachment site on the phage is known as attP, while the attachment site on the bacteria is referred to as attB. Although the attB site is actually in the genome of the bacteria rather than the phage, it is occasionally referred to as associated with the lambda phage. In the presence of the lambda integrase protein, the attachment site attB is split, as is the attachment site attP, creating complementary ends which are then welded together in a site specific recombination event. The new sites created by this recombinant event are referred to as attL and attR, represent the left and right borders of the inserted DNA sequence. All the steps of the integration reaction are coupled, in the sense that all four strands are cut, exchanged, and re-ligated without any stable intermediates appearing. The attP site and attB sites are unequal in size and complexity. The attP site is much larger and contains more binding sites to the enzyme. The minimal attB site is much smaller and may be reduced to a 15 base pair core. The identification of the sites and an analysis of the mechanism of this recombinant event may be found in Hsu, et al., Nature, 285, pp. 85-91 (1980).

Detailed Description Text (7):

While the lambda integrase recombinant system is described herein, with attP and attB as the recognition sites and lambda integrase as the recombination agent, other systems for site specific recombination may also be usable within the vector of the present invention. Other possible genetic recombination systems include those based on the hin (from Salmonella)-gin (from bacteriophage mu), flp (from the 2 micron circle of yeast), and the att80 system of phage Phi80. The requirement of such alternative systems is that the recombinant event be site specific and predictable, and that the recombinant agent be convenient.

Detailed Description Text (8):

Thus the sequencing vector of the present invention allows for either of two strands of a target DNA sequence to be selectively replicated in cells in culture. By insertion of the unknown target DNA sequence into the sequencing vector of the present invention, and in the absence of the lambda integrase protein, the sequencing vector will be efficient in creating single-stranded DNA of one of the two possible orientations of the inserted target DNA sequence. Primer directed generation of a complementary strand from adjacent the insertion then permits sequencing the inserted target DNA in one orientation. By then exposing the sequencing vector to the lambda integrase protein, either by in vitro chemical reaction or by transfection into an appropriate host capable of manufacturing the integrase protein, the site specific recombination event occurs, and the target DNA sequence is flipped in orientation within the vector. Then reverse primer extension under the same conditions as before would result in a complementary DNA to the opposite strand of the target DNA sequence and beginning at the opposite end. In this way, single-stranded DNA from either strand of the target DNA sequence can selectively and conveniently be created. The vectors having the inserted target DNA sequence in either orientation are stable, and can be stored or manipulated as desired. While this inversion feature of the vector makes the vector particularly suited for dideoxynucleotide sequencing, it is to be understood that other sequencing techniques are possible as well.

Detailed Description Text (20):

To conveniently utilize the Janus construction, a pair of bacterial hosts were selected, one having and one not having the capability of conditioning the expression of the phage lambda integrase. The particular host used was JM101:sup, thi, delta(lac-proAB) [F', traD36, proAB, lacI.sup.q Z.DELTA.M25]. The second bacterial host utilized was JM101p(Int) which is the same E.coli JM101 carrying therein the plasmid pHS3-1, which was constructed by Gardner as described in J. Bact., 172, pages 1529-1538 (1990). The plasmid pHS3-1 carries the lambda integrase gene driven by a hybrid Trp-Lac promoter referred to as Ptac. The resulting hybrid promoter is induced by iso-propyl-thio-galactoside (IPTG), so that the cell is competent to carry out site specific recombination by expression of the lambda integrase protein upon the induction by addition to the media of IPTG.

Detailed Description Text (30):

The Janus phage vector thus created has the capability of actuating an inversion of a DNA segment contained within the vector in the form of a site specific integrase recombination of sites contained within the vector. The actual cross-over sites are contained at base pairs 6081-6087 in the attP site, and base pairs 6668-6674 in the attB site, which are seven base inverted repeats that form the actual cross-over site for lambda integrase mediated site specific recombination. Since these sites are placed in the vector in inverse orientation relative to each other, the initiation of lambda integrase recombination of a vector results in the complete inversion of the orientation of all the DNA placed between these sites in orientation within the vector. In other words, the exposure of the vector to the lambda integrase enzyme, under proper conditions for actuation of the enzyme, results in the complete reversal and orientation of all the DNA placed between base pairs 6087 and 6668 of the Janus vector described above. Between those base pairs is a Sma I cloning site (at base pairs 6655). The Sma I site is plasmid unique. Thus any DNA incorporated into the Janus vector at the Sma I site will be located within the region which is inverted when the site specific recombination event occurs utilizing this vector.

Detailed Description Text (32):

Similarly, at base pairs 6713 to 6728 of the Janus vector is a sequence which is complimentary to the sequence of a commercially available primer, known as a "-40 primer" that can also be used to initiate single-stranded DNA polymerization on the template of the Janus vector. This primer can be used to initiate sequence elongation of inserts into the Janus vector before the recombination event triggered by the lambda integrase enzyme.

Detailed Description Text (33):

The position of the Sma I cloning site is that 6655, conveniently located between the two primers and also appropriately located between the two sites of the site specific integration events. There is an Eco RI site at 6687, but this is not

suitable for sequence cloning because the DNA cloned into that site would not be inverted by the lambda integrase, since the site is outside of the cross-over site for the integrase mediated recombination process. Within the Janus nucleotide sequence, base pairs 6631 through 7125, represent the coding region for the alpha complementing region of beta galactosidase. The interruption by insertion of this coding region is responsible for the blue plaque test used to test for insertions into other M13 vectors. This test continues to work for the Janus vector as described herein through use of the exact same technique.

Detailed Description Text (38):

To utilize the Janus vector in a cloning operation, from a 20 kilobase DNA insert, a random library can be created by sonication of the DNA to result in fragments of between 700 and 2300 base pairs in length. From such random fragments, 300 separate fragments are cloned into the Janus vector and can be cloned and replicated to create single-stranded DNA for sequencing. By sequencing all of the fragments contained in the 300 clones, approximately five-fold coverage of the entire 20,000 base pair segment can be statistically achieved. The sequences can then be assembled by computer. Both experience and computer simulation has indicated that at this level of over-sequencing a few gaps will still remain. To close those gaps and provide the desired level of redundant sequencing for each of the gaps, a subset of about 100 of the clones is selected for inversion. This subset is chosen from the 300 clones to include those clones which are adjacent to the remaining gaps, and to cover those regions which have been sequenced less than four times or regions which have been sequenced only on one strand, or sequences which have significant ambiguities in the consensus sequence so far obtained. These clones are then subjected to an inversion operation by exposing the plasmid clones to the lambda integrase protein. This can be done by in vitro exposure to integrase, or by removing the Janus vectors with the included sequences and then transfecting into integrase competent E.coli host (i.e. JM101 with pH53-1). The 100 clones thus selected will create single-stranded DNA for the selected 100 fragments, but each of the fragments will provide data from the opposite strand of the origin DNA and the sequences will begin at the opposite end of each fragment. Thus strong data is provided for the weak points left by the initial random screening approach. Three-fold additional sequencing from this covering set has been determined by computer model to provide more than an ample high probability of closing all the gaps in each strand, and then building up the minimum four fold redundancy at each point on the sequence. Since by this process seven to eight fold redundancy will have been achieved on average for each base sequence, the need to reach that primary data would be limited to a very few specific problem areas.

CLAIMS:

19. A method as claimed in claim 14 wherein the vector includes as its recombination recognition sites the attP and attB sites of lambda phage, and wherein step (e) comprises exposing the vectors to lambda integrase enzyme to catalyze the site specific recombination event.
20. A method as claimed in claim 19 wherein the exposure of the vectors to the lambda integrase enzyme is done by transfecting the vectors into a bacterial host having lambda integrase enzyme therein.
21. A method as claimed in claim 19 wherein the exposure of the vectors to the lambda integrase enzyme is done by exposing the vectors to the lambda integrase enzyme in vitro.



Day : Tuesday  
Date: 4/29/2003  
Time: 19:12:05

**PALM INTRANET**

**Inventor Name Search Result**

Your Search was:

Last Name = OW

First Name = DAVID

| Application#    | Patent#    | Status | Date Filed | Title  | Inventor Name   |
|-----------------|------------|--------|------------|--|-----------------|
| <u>60443804</u> | Not Issued | 020    | 01/29/2003 | DEVICE FOR MEASURING DEVIATIONS FROM FLATNESS AND SURFACE TOPOLOGY OF A PATTERNED SEMICONDUCTOR WAFER SURFACE USING A INTERFEROMETER FOR PROCESS CONTROL OF CHEMICAL MECHANICAL POLISHING DURING SEMICONDUCTOR AND OPTO-ELECTRONIC MANUFACTURING | OWEN, DAVID     |
| <u>60443329</u> | Not Issued | 020    | 01/28/2003 | DEVICE FOR MEASURING THE SURFACE SLOPE, SURFACE CURVATURE AND STRESS OF PATTERNED SILICON WAFERS USING AN INTERFEROMETRIC TECHNIQUE THAT EVALUATES THE BACKSIDE SURFACE OF THE WAFER   | OWEN, DAVID     |
| <u>60405434</u> | Not Issued | 019    | 08/22/2002 | METHOD AND SYSTEM FOR INTEGRATING ENTERPRISE SOFTWARE APPLICATIONS WITH DESKTOP SOFTWARE APPLICATIONS  | OWENS, DAVID H. |
| <u>60220062</u> | Not Issued | 020    | 07/21/2000 | GENE INSERTION AND REPLACEMENT IN EUKARYOTIC CELLS   | OW, DAVID W.    |
| <u>60200605</u> | Not Issued | 159    | 04/28/2000 | ORGANOPHOTORECEPTORS FOR ELECTROPHOTOGRAPHY FEATURING ELECTRON TRANSPORT COMPOUNDS   | OWEN, DAVID J.  |
| <u>60200475</u> | Not Issued | 159    | 04/28/2000 | ORGANOPHOTORECEPTORS FOR ELECTROPHOTOGRAPHY  | OWEN, DAVID J.  |

|                 |                |     |            |   |                          |
|-----------------|----------------|-----|------------|---|--------------------------|
|                 |                |     |            | FEATURING ELECTRON<br>TRANSPORT COMPOUNDS   |                          |
| <u>29149643</u> | <u>D464978</u> | 150 | 10/12/2001 | BOOM AND ATTACHMENT<br>MOUNTING PLATE   | OWENS,<br>DAVID A.       |
| <u>29149633</u> | <u>D466135</u> | 150 | 10/12/2001 | FRAME FOR A WHEELED<br>WORK MACHINE   | OWENS,<br>DAVID A.       |
| <u>29149591</u> | Not<br>Issued  | 093 | 10/12/2001 | CAB FOR A WHEELED WORK<br>MACHINE   | OWENS,<br>DAVID A.       |
| <u>10344619</u> | Not<br>Issued  | 019 | 01/01/0001 | BICYCLIC HETEROAROMATIC<br>DERIVATIVES FOR THE<br>TREATMENT OF IMMUNE AND<br>INFLAMMATORY DISORDERS               | OWEN, DAVID<br>ALAN      |
| <u>10343135</u> | Not<br>Issued  | 019 | 01/01/0001 | SIGNAL MEASUREMENT  | OWEN, DAVID<br>PAUL      |
| <u>10313060</u> | Not<br>Issued  | 020 | 12/06/2002 | PATCH-CLAMPING METHOD<br>AND APPARATUS  | OWEN, DAVID<br>GERAINT   |
| <u>10262810</u> | Not<br>Issued  | 030 | 10/01/2002 | METHOD AND SYSTEM FOR<br>INTEGRATING ENTERPRISE<br>SOFTWARE APPLICATIONS<br>WITH DESKTOP SOFTWARE<br>APPLICATIONS | OWENS,<br>DAVID H.       |
| <u>10236637</u> | Not<br>Issued  | 041 | 09/06/2002 | HYDROXAMIC AND<br>CARBOXYLIC ACID<br>DERIVATIVES  | OWEN, DAVID<br>ALAN      |
| <u>10230932</u> | Not<br>Issued  | 041 | 08/29/2002 | HYDROXAMIC AND<br>CARBOXYLIC ACID<br>DERIVATIVES  | OWEN, DAVID<br>ALAN      |
| <u>10147574</u> | Not<br>Issued  | 030 | 05/16/2002 | APPARATUS AND METHOD<br>FOR VALIDATING A<br>DATABASE RECORD BEFORE<br>APPLYING JOURNAL DATA                       | OWEN, DAVID<br>FINIAN    |
| <u>10074889</u> | Not<br>Issued  | 030 | 10/29/2001 | METHOD AND APPARATUS<br>FOR DATA RECOVERY<br>OPTIMIZATION IN A<br>LOGICALLY PARTITIONED<br>COMPUTER SYSTEM        | OWEN, DAVID<br>FINIAN    |
| <u>10032796</u> | Not<br>Issued  | 030 | 12/26/2001 | FORMS AUDITING SYSTEMS<br>AND METHODS   | OWEN, DAVID<br>A.        |
| <u>10011031</u> | Not<br>Issued  | 095 | 11/13/2001 | HYDROXAMIC AND<br>CARBOXYLIC ACID<br>DERIVATIVES HAVING MMP<br>AND TNF INHIBITORY<br>ACTIVITY                     | OWEN, DAVID<br>ALAN      |
| <u>09980235</u> | Not<br>Issued  | 030 | 03/29/2002 | SCREENS   | OWEN, DAVID<br>LLEWELLEN |
| <u>09975171</u> | Not            | 030 | 10/10/2001 | METHOD AND SYSTEM FOR   | OWEN, DAVID              |

|                 |                |     |            |  |                        |
|-----------------|----------------|-----|------------|--|------------------------|
|                 | Issued         |     |            | PERFORMING MONEY<br>TRANSFER TRANSACTIONS  | A.                     |
| <u>09965083</u> | Not<br>Issued  | 030 | 09/26/2001 | ELECTRONIC<br>ACKNOWLEDGMENT OF<br>RECEIPT OF INVENTORY  | OWEN, DAVID<br>A.      |
| <u>09911088</u> | Not<br>Issued  | 071 | 07/23/2001 | METHODS FOR THE<br>REPLACEMENT,<br>TRANSLOCATION AND<br>STACKING OF DNA IN<br>EUKARYOTIC GENOMES | OW, DAVID W.           |
| <u>09862035</u> | Not<br>Issued  | 030 | 05/21/2001 | SELECTIVE MMP INHIBITORS<br>HAVING REDUCED<br>SIDE-EFFECTS                                       | OWEN, DAVID<br>ALAN    |
| <u>09857456</u> | Not<br>Issued  | 030 | 09/24/2001 | INTERFACE PATCH CLAMPING   | OWEN, DAVID<br>GERAINT |
| <u>09855978</u> | <u>6469020</u> | 150 | 05/15/2001 | HYDROXAMIC AND<br>CARBOXYLIC ACID<br>DERIVATIVES   | OWEN, DAVID<br>ALAN    |
| <u>09851608</u> | Not<br>Issued  | 161 | 05/09/2001 | ELECTRICAL POWER<br>GENERATION SYSTEM FOR<br>VEHICULAR BASED<br>APPLICATIONS                     | OWENS,<br>DAVID J.     |
| <u>09830739</u> | Not<br>Issued  | 071 | 06/25/2001 | HYDROXAMIC AND<br>CARBOXYLIC ACID<br>DERIVATIVES HAVING MMP<br>AND TNF INHIBITORY<br>ACTIVITY    | OWEN, DAVID<br>ALAN    |
| <u>09820094</u> | <u>6469788</u> | 150 | 03/27/2001 | COHERENT GRADIENT<br>SENSING ELLIPSOMETER  | OWEN, DAVID<br>M.      |
| <u>09806266</u> | <u>6462042</u> | 150 | 03/28/2001 | HYDROXAMIC ACID<br>DERIVATIVES AS MATRIX<br>METALLOPROTEINASE (MMP)<br>INHIBITORS                | OWEN, DAVID<br>ALAN    |
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